REPORT OF FIELD ACTIVITIES
FOR THE
PAINT SLUDGE REMOVAL PROGRAM
RINGWOOD MINES/LANDFILL SITE
RINGWOOD, NEW JERSEY

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INTRODUCTION

This report documents the Paint Sludge Removal Program at the Ringwood Mines/Landfill Site in Passaic County, Borough of Ringwood, New Jersey. A site location map is provided as Figure 1. The Removal Program was performed pursuant to a USEPA Administrative Order, Index No. II-CERCLA-70102 (date of issuance: 26 June 1987). Excavation and hauling began in October 1987 and ended in February 1988. Restoration (which includes contour regrading and backfilling) and revegetation are to be completed by the end of September 1988.

The Work Plan for the Removal Program consisted of 4 documents prepared by Woodward-Clyde Consultants (WCC) for Ford International Services, Inc. A general work plan entitled "Work Plan for Removal and Disposal of Paint Sludge at the Ringwood Mines/Landfill Site", dated March 1987, was submitted to the USEPA on 6 March 1987. That plan presents the scope of work required for the Removal Program. A progress report entitled "Progress Report for the Removal Action at the Ringwood Mines/Landfill Site", dated June 1987, was submitted to the USEPA on 3 June 1987. That report details the results of the sampling and analysis program which established a waste classification and estimated the quantity of paint sludge. The "Contract Documents for the Paint Sludge Removal Action, Ringwood Mines/Landfill Site", dated August 1987 (including Addendum No. 1, dated 25 August 1987, and Addendum No. 2, dated 4 September 1987) detail the Plans and Specifications for the Removal Action. Finally, the "Post-Excavation Sampling Plan for the Paint Sludge Removal Program, Ringwood Mines/Landfill Site", dated 7 August 1987, details the sampling and analysis program. The Contract Documents and the Post-Excavation Sampling Plan were submitted to USEPA during August/September, 1987.

The USEPA approved the Work Plan per letter dated 30 September 1987, to Ford International Services, Inc.

Kramer Environmental of Clifton, New Jersey was awarded the Paint Sludge Removal Contract. As the prime contractor they provided personnel and

equipment to complete the Removal Program. WCC provided resident engineering services and administered the Contract on behalf of Ford International Services, Inc.

The Removal Program primarily involved the following activities:

A. Implementation and maintenance of an approved Soil Erosion and Sediment Control Plan;

B. Preparation of access roads and staging areas;

C. Excavation of paint sludge and visibly contaminated soils;

D. Weighing of loads;

E. Hauling of loads;

F. Delivery of sludge and soils to the Wayne Disposal Inc., Hazardous Waste Disposal Facility in Belleville, Michigan; and

G. Restoration (contour regrading and backfilling) and revegetation of excavated and disturbed areas (to be completed by the end of September 1988).

The paint sludge occurred in 4 locations within the site which were designated locations A-D (Figure 2). Paint sludge location A included 2 near-by and relatively small deposits of sludge which were discovered during the Removal Program. Paint sludge location C included 1 near-by and small deposit of sludge which was also discovered during the Removal Program.

SCHEDULE

This section chronologically documents the significant field activities that occurred during the Removal Program. The field effort began on 19 October 1987 and is to be completed by the end of September 1988 (excavation and hauling was completed on 3 February 1988).

A summary of activities is presented below:

Week 1 (19 October 1987)	A.	mobilization;
	B.	installation of soil erosion and sediment control measures around locations A, B and D;
	C.	pre-excavation surveying of locations A, B and D;
	D.	preparation of access roads and staging areas around locations A, B and D; and
	E.	sampling of the backfill borrow site.
Week 2	A.	excavation of sludge and visibly contaminated soils in locations A and D; and
	B.	hauling of sludge and visibly contaminated soils from locations A and D.
Week 3 (2 November 1987)	A.	excavation of sludge and visibly contaminated soils in locations A, B and D; and
	B.	hauling of sludge and visibly contaminated soils from locations A and D.
Week 4	A.	excavation of sludge and visibly contaminated soils in location A;
	B.	hauling of sludge and visibly contaminated soils from location A; and
	C.	pre-excavation surveying of location C.
Week 5	A.	excavation of sludge and visibly contaminated soils in location A;
	B.	hauling of sludge and visibly contaminated soils from location A;
	C.	post-excavation sampling at location D; and
	D.	installation of soil erosion and sediment control measures around location C.
Week 6	A.	excavation of sludge and visibly contaminated soils in locations A and B;

	B.	hauling of sludge and visibly contaminated soils from location A; and
	C.	preparation of access roads and staging areas around location C.
Week 7	A.	excavation of sludge and visibly contaminated soils in locations B and C;
	B.	hauling of sludge and visibly contaminated soils from locations B and C; and
	C.	post-excavation sampling at location A.
Week 8 (7 December 1987)	A.	excavation of sludge and visibly contaminated soils in location C;
	B.	hauling of sludge and visibly contaminated soils from locations A and C; and
	C.	seep sampling at location C.
Week 9	A.	excavation of sludge and visibly contaminated soils in locations A and C;
	B.	hauling of paint sludge and visibly contaminated soils from location C; and
	C.	post-excavation sampling at sludge location B.
Week 10	A.	excavation of sludge and visibly contaminated soils in locations A and C;
	B.	hauling of sludge and visibly contaminated soils from location C;
	C.	post-excavation sampling at location C; and
	D.	post-excavation surveying at location D.
Week 11	A.	hauling of sludge and visibly contaminated soils from locations A and C;
	B.	post-excavation surveying of location B; and
	C.	backfilling of former sludge location D.
Week 12 (4 January 1988)	A.	backfilling of former sludge location D.
Week 13	A.	backfilling of former sludge locations B and D.
Week 14	A.	excavation of sludge and visibly contaminated soils in location C;
	B.	post-excavation surveying of location C; and
	C.	backfilling of former sludge locations B, C and D
Week 15	A.	excavation of contaminated soils in location A;
	B.	hauling of sludge and visibly contaminated soils from location C; and

	C.	post-excavation surveying of location A.
Week 16 (1 February 1988)	A.	hauling of contaminated soils from location A; and
	B.	backfilling of former sludge location C.
Week 17	A.	additional post-excavation sampling at location A; and
	B.	post-excavation sampling at sludge location C.
Week 18	A.	significant on-site activities did not occur.
Week 19	A.	significant on-site activities did not occur.
March, 1988	A.	final confirmatory round sampling at locations A, B, C and D.
April, 1988	A.	significant on-site activities did not occur.
May, 1988	A.	additional post-excavation surveying of location A.
June, 1988	A.	significant on-site activities did not occur.
July, 1988	A.	significant on-site activities did not occur.
August, 1988	A.	significant on-site activities did not occur.
September, 1988	A.	backfilling of former sludge locations A, B and C.
	B.	post-restoration surveying of locations A, B, C and D; and
	C.	hydroseeding of locations A, B, C and D.

POST-EXCAVATION AND BORROW SITE SAMPLING

After excavating the paint sludge and visibly contaminated soils, soil samples were taken from the post-excavation surface of each former paint sludge location, and from points around each former paint sludge location. Based on the analytical results for the post-excavation samples, additional deeper excavation was implemented in the southern section of location A (Figure 3). After that excavation, additional samples were collected. Sample locations are depicted on Figure 2, 3, 4 , 5 and 6. A master list of samples is presented as Table 1.

Borrow site samples (designated as BS-1 through BS-3) were taken (in accordance with the Work Plan) from Berkshire Sand and Stone prior to importing fill to the site. The purpose of the borrow site sampling was to document the quality of the borrow source. Berkshire is located in Oak Ridge, New Jersey.

SUBMITTALS

During the excavation and hauling phase of the Removal Program, weekly progress reports were submitted to the USEPA. Those reports document the weekly work activities. After the excavation and hauling phase was complete, monthly progress reports were submitted.

The analytical data reports for the borrow site samples, the post excavation samples (including the two seep samples associated with location C) and the final confirmatory round samples were either mailed or hand delivered to the USEPA during the course of the Removal Program. Those reports are on file with the USEPA and Woodward-Clyde Consultants. All analytical data reports were prepared by General Testing Corporation of Hackensack, New Jersey.

The uniform hazardous waste manifests were distributed according to applicable federal and state manifesting regulations.

POST-EXCAVATION AND POST-RESTORATION SURVEYS

Upon completion of excavation and hauling, each paint sludge location was surveyed. The survey was designed to map the horizontal and vertical limits of excavation and to map post-excavation sample locations. The excavation limits and topography are presented in Figures 3, 4, 5 and 6. (Figure 2 shows the approximate excavation limits of the 2 small sludge deposits included with location A and the 1 small sludge deposit included with location C. After excavating and hauling those deposits, the areas were surveyed to establish their position only. Their vertical limits were not surveyed. The horizontal limits depicted on Figure 2 are approximate limits which are based on field

observations.) The horizontal grid system is a site specific northing and easting coordinate system established as part of the Remedial Investigation. The elevations are reported in mean sea level datum (NGVD). Post-excavation sample locations are mapped on Figures 2, 3, 4, 5 and 6.

Based on the analytical results for the post-excavation samples, additional deeper excavation was implemented in the southern section of location A (Figure 3). After excavation, additional samples were collected.

Contour regrading involves rough grading the location before backfilling. The irregular post-excavation surface, including large boulders and mounds of mine tailings, is rough graded to accommodate a uniform thickness of backfill (a minimum 1 foot soil cover over each location). Location D was not contour regraded. The excavation was simply backfilled to grade (compare Figures 6 and 10).

After contour regrading and backfilling, each former paint sludge location is to be surveyed to show the topography of the restored area. The post-restoration topographic surveys (as-built drawings) are to be presented as Figures 7, 8, 9, and 10 of the report.

The post-excavation surveys were performed by William F. Zimmerly and Associates of Lincoln Park, New Jersey. William F. Zimmerly and Associates are to perform the post-restoration surveys.

Location A included 2 near-by and relatively small deposits of sludge (Figure 2) which have been excavated and hauled. One of the areas is to be contour regraded and backfilled; however, the other area cannot be backfilled because a truckload of used tires was dumped in the excavation (by persons unknown) soon after the sludge was removed. Post-restoration topographic surveys will not be performed for those areas.

Location C included 1 near-by and relatively small deposit of sludge (Figure 2) which has been removed. The area is to be contour regraded and backfilled. A restoration topographic survey will not be performed for that area.

The backfilled locations are to be revegetated using the hydroseeding method.

QUANTITIES

A total of 11,340 tons or approximately 6997 cubic yards of material was excavated and hauled from the site. By area, the total can be subdivided as follows:

Location A: 5897 tons (approximately 3608 cubic yards)

Location B: 1851 tons (approximately 1106 cubic yards)

Location C: 2242 tons (approximately 1308 cubic yards)

Location D: 1351 tons (approximately 975 cubic yards)

A total of *_____ tons or approximately *_____ cubic yards of backfill was imported to the site. By area, the backfill total can be subdivided as follows:

Location A: *_____

Location B: *_____

Location C: *_____

Location D: 1076 tons (approximately 664 cubic yards)

*To be reported by letter addendum (October 1988) following completion of restoration.

TABLE 1
MASTER LIST OF POST-EXCAVATION AND BORROW SITE SAMPLES ANALYZED FOR THE PAINT SLUDGE REMOVAL PROGRAM
RINGWOOD MINES/LANDFILL SITE

Sample No.	Date Sampled	EP Toxicity Metals[1]	TCLP HSL Volatile and Semi-Volatile Compounds[2]	HSL Volatile and Semi-Volatile Compounds	HSL Volatile and Semi-Volatile Compounds, Priority Pollutant Metals plus Barium, TPH, Cyanide[3]	HSL Volatile Compounds	Priority Pollutants, Gross Alpha and Beta
			LOCATION A				
A1-U	12-2-87	X	X				
A2-U	12-2-87	X	X				
A3-U	12-2-87	X	X				
A3-L	12-2-87	X	X				
A4-U	12-2-87	X	X				
A5-U	12-2-87	X	X				
A6-U	12-2-87	X	X				
A7-SP	12-2-87	X	X				
A8-SP	12-2-87	X	X				
A-BG1-U	12-2-87	X	X				
A-BG2-U	12-2-87	X	X				
A-BG3-U	12-2-87	X	X				
A-BG4-U	12-2-87	X	X				
A-FB1	12-2-87					X	
A-TB1	12-2-87					X	
A9-U	2-8-88		X	X			
A10-U	2-8-88		X	X			
A11-U	2-8-88		X	X			
A12-U	2-8-88	X	X				
AC-FB1	2-8-88						
AC-TB1	2-8-88						
A2	3-14-88				X		
A3	3-14-88				X		
A4	3-14-88				X		
A5	3-14-88				X		
A6	3-14-88				X		
FB-1	3-14-88					X	
TB-1	3-14-88					X	

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TABLE 1 (continued)
MASTER LIST OF POST-EXCAVATION AND BORROW SITE SAMPLES ANALYZED FOR THE PAINT SLUDGE REMOVAL PROGRAM
RINGWOOD MINES/LANDFILL SITE

Sample No.	Date Sampled	EP Toxicity Metals[1]	TCLP HSL Volatile and Semi-Volatile Compounds[2]	HSL Volatile and Semi-Volatile Compounds	HSL Volatile and Semi-Volatile Compounds, Priority Pollutant Metals plus Barium, TPH, Cyanide[3]	HSL Volatile Compounds	Priority Pollutants, Gross Alpha and Beta
			LOCATION B				
B1-U	12-16-87	X	X				
B2-U	12-16-87	X	X				
B3-U	12-16-87	X	X				
B-BG1-U	12-16-87	X	X				
B-BG2-U	12-16-87	X	X				
B-BG3-U	12-16-87	X	X				
B-FB1	12-16-87					X	
B-TB1	12-16-87					X	
B1	3-15-88				X		
B2	3-15-88				X		
B3	3-15-88				X		
FB-2	3-15-88					X	
TB-2	3-15-88					X	
			LOCATION C				
C-S1	12-9-87	X					
C-S2	12-9-87	X					
C1-U	12-22-87	X	X				
C2-U	12-22-87	X	X				
C3-U	12-22-87	X	X				
C4-U	12-22-87	X	X				
C5-U	12-22-87	X	X				
C6-U	12-22-87	X	X				
C7-U	12-22-87	X	X				
C-BG1-U	12-22-87	X	X				
C-BG2-U	12-22-87	X	X				
C-BG3-U	12-22-87	X	X				
C-BG4-U	12-22-87	X	X				
C-FB1	12-22-87					X	
C-TB1	12-22-87					X	

TABLE 1 (continued)

MASTER LIST OF POST-EXCAVATION AND BORROW SITE SAMPLES ANALYZED FOR THE PAINT SLUDGE REMOVAL PROGRAM
RINGWOOD MINES/LANDFILL SITE

Sample No.	Date Sampled	EP Toxicity Metals[1]	TCLP HSL Volatile and Semi-Volatile Compounds[2]	HSL Volatile and Semi-Volatile Compounds	HSL Volatile and Semi-Volatile Compounds, Priority Pollutant Metals plus Barium, TPH, Cyanide[3]	HSL Volatile Compounds	Priority Pollutants, Gross Alpha and Beta
			LOCATION C				
C8-U	2-8-88	X	X			X	
AC-FB1	2-8-88					X	
AC-TB1	2-8-88						
C3	3-15-88				X		
C7	3-15-88				X		
FB-2	3-15-88					X	
TB-2	3-15-88					X	
			LOCATION D				
D1-U	11-16-87	X	X				
D1-L	11-16-87	X	X				
D2-U	11-16-87	X	X				
D2-L	11-16-87	X	X				
D3-U	11-16-98	X	X				
D3-L	11-16-87	X	X				
D-BG1-U	11-16-87	X	X				
D-BG1-L	11-16-87	X	X				
D-BG2-U	11-16-87	X	X				
D-BG2-L	11-16-87	X	X				
D-BG3-U	11-16-87	X	X			X	
D-BG3-L	11-16-87	X	X			X	
D-FB1	11-16-87						
D-TB1	11-16-87						
D1	3-13-88				X		
D2	3-14-88				X		
FB-1	3-14-88					X	
TB-1	3-14-88					X	

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TABLE 1 (continued)
MASTER LIST OF POST-EXCAVATION AND BORROW SITE SAMPLES ANALYZED FOR THE PAINT SLUDGE REMOVAL PROGRAM
RINGWOOD MINES/LANDFILL SITE

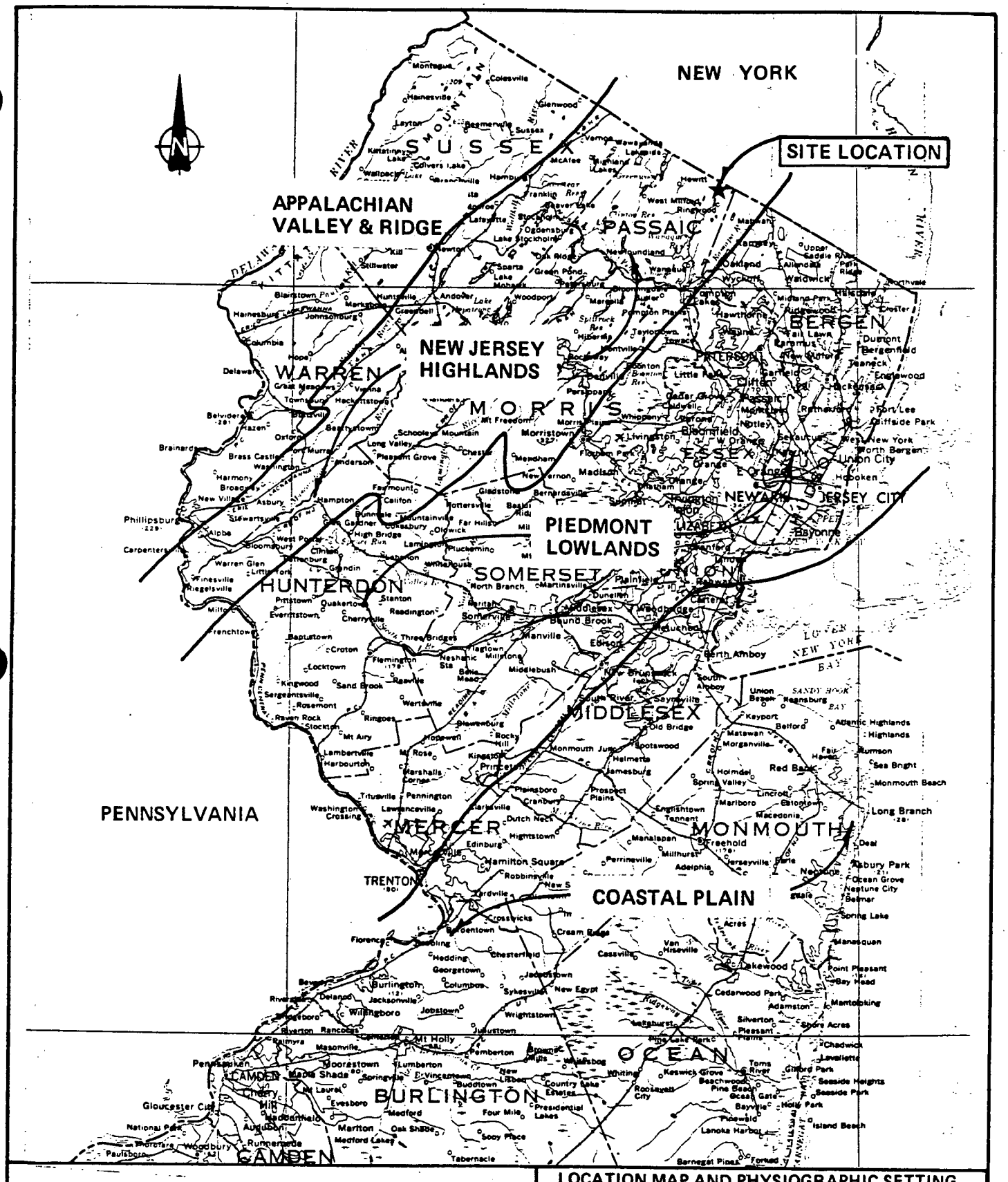
Sample No.	Date Sampled	EP Toxicity Metals[1]	TCLP HSL Volatile and Semi Volatile Compounds[2]	HSL Volatile and Semi Volatile Compounds	HSL Volatile and Semi-Volatile Compounds, Priority Pollutant Metals plus Barium, TPH, Cyanide[3]	HSL Volatile Compounds	Priority Pollutants, Gross Alpha and Beta
BORROW SITE							
BS-1	10-22-87						X
BS-2	10-22-87						X
BS-3	10-22-87						X
FB-1	10-22-87					X	
TB-1	10-22-87					X	

1. Extraction Procedure Toxicity for metals plus Antimony, Copper, Nickel and Zinc.

2. Toxicity Characteristic Leaching Procedure. Extract was analyzed for hazardous substance list volatile and semi-volatile compounds.

3. TPH = Total Petroleum Hydrocarbons.

All samples are soil samples with the exception of CS-1 and CS-2 which are seep samples, and trip blanks and field blanks (TB and FB designations, respectively) which are laboratory supplied purged water.



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LOCATION MAP AND PHYSIOGRAPHIC SETTING OF THE RINGWOOD MINES/LANDFILL SITE

WOODWARD—CLYDE CONSULTANTS

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DR. BY:	DRS	SCALE:	AS SHOWN	PROJ. NO.:	84C4084
CK'D. BY:	CJM	DATE:	6 AUG 1986	FIG. NO.:	1